WHAT IS CLAIMED IS:

1.   A method for discovering fabric devices, comprising:

5   receiving a list from a fabric driver of fabric devices available to a host system;

receiving a request to select a subset of the fabric devices from the list; and

requesting the fabric driver to create a node in the host system for each of the fabric devices in the subset not already online.

2.   The method as recited in claim 1, further comprising, prior to said receiving a request to select a subset of the fabric devices from the list:

15   displaying the list of fabric devices available to the host system.

3.   The method as recited in claim 1, further comprising, prior to said receiving a list:

20   requesting the fabric driver to provide the list of fabric devices available to the host system in response to user input.

4.   A method for discovering fabric devices, comprising:

25   providing a list of fabric devices available to a host system;

receiving a request to create nodes in the host system for each fabric device in a selected subset of the fabric devices available to the host system; and

creating a node in the host system for each of the fabric devices in the selected subset not already online.

5.   The method as recited in claim 4, further comprising, prior to said providing a list of fabric devices:

querying a fabric nameserver for information about the fabric devices;

receiving the information about the fabric devices from the nameserver; and

compiling the list of fabric devices available to the host system.

6.   The method as recited in claim 5, wherein said compiling the list comprises:

from the information about the fabric devices, selecting the fabric devices supporting one protocol out of a plurality of protocols supported on the fabric; and

compiling the list of fabric devices to list only those fabric devices supporting said one protocol.

7.   The method as recited in claim 6, wherein said one protocol is SCSI over Fibre Channel.

8.   The method as recited in claim 4, wherein the list comprises address information to address the fabric devices through the fabric.

9.   A method for discovering devices attached to a storage network, comprising:

receiving a request to identify devices attached to the storage network which are available to a host system;

5   requesting the storage network to identify devices attached to the storage network which are available to the host system;

receiving a list of the identified devices;

10   receiving a request to on-line a subset of the identified devices; and

creating a node within the host system for each of the identified devices in the subset that is not already online.

15   10.   The method as recited in claim 9, wherein the storage network comprises a fabric, and wherein the host system comprises a plurality of ports to the fabric, wherein said request to identify devices attached to the storage network which are available to a host system is for devices available to the host system through a specified one of the ports, and wherein said requesting the storage network to identify devices is made for the

20   specified port.

11.   The method as recited in claim 9, wherein the storage network comprises a fabric, and wherein the host system comprises a plurality of ports to the fabric, wherein said request to identify devices attached to the storage network which are available to a

25   host system is for devices available to the host system through a specified set of the ports, and wherein said requesting the storage network to identify devices is made for the specified set of the ports.

12.   The method as recited in claim 9, further comprising, for each device successfully brought online for the host system by said creating a node, updating a persistent repository to indicate which devices are currently online.

13.   The method as recited in claim 12, further comprising:

receiving from the storage network a notification that a device is no longer available; and

updating the persistent repository to reflect that the unavailable device is offline.

14.   The method as recited in claim 12, further comprising:

in response to a reboot of the host system:

reading the persistent repository; and

onlining the devices indicated by the persistent repository to have been onlined prior to the reboot.

15.   The method as recited in claim 9, wherein the storage network comprises a Fibre Channel switched fabric comprising a plurality of Fibre Channel switches.

16.   A device discovery method for a host system, wherein the host system comprises a plurality of I/O ports, the method comprising:

determining whether each of the I/O ports is coupled to one or more direct attach devices or to a fabric;

for each of the I/O ports connected to one or more direct attach devices, discovering the one or more direct attach devices and creating an operating system node for accessing each direct attach device; and

5   for each of the I/O ports connected to the fabric, designating the I/O port as a fabric port without attempting to discover devices attached to the fabric.

17.   The method as recited in claim 16, wherein said determining, said discovering the one or more direct attach devices and creating an operating system node,

10   and said designating are performed in response to a reboot of the host system.

18.   The method as recited in claim 17, further comprising, subsequent to said reboot and to said determining, said discovering the one or more direct attach devices and creating an operating system node, and said designating:

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receiving a request to discover devices available to the host system through one of said I/O ports designated as a fabric port; and

in response to said request, obtaining a list of fabric devices available through said

20   one of said I/O ports designated as a fabric port and onlining a selected subset of the fabric devices.

19.   The method as recited in claim 18, wherein said request is made by a system administrator through an application executing on the host system.

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20.   The method as recited in claim 16, wherein the I/O ports comprise Fibre Channel host adapter ports.

21.   The method as recited in claim 16, wherein each of the I/O ports connected to one or more direct attach devices comprises a port to a Fibre Channel private loop or point-to-point link.

22.   The method as recited in claim 16, wherein said determining whether each of the I/O ports is connected to one or more direct attach devices or to the fabric comprises:

attempting to log-in to the fabric through each I/O port;

if the log-in fails, designating the I/O port as a direct-attach port; and

if the log-in is successful, designating the I/O port as a fabric port.

23.   A host system, comprising:

one or more adapter ports for connecting to a fabric;

a fabric driver configured to interface the host system to the fabric;

an application configured to request the fabric driver to provide a list of fabric devices attached to the fabric that are visible to the host system through one of said adapter ports;

wherein the fabric driver is further configured to provide the list of fabric devices to the application in response to the request from the application;

wherein the application is further configured to indicate to the fabric driver a selected subset of the fabric devices from the list to be brought online for access from the host system; and

wherein the fabric driver is further configured to online the selected subset of fabric devices so that the selected subset of fabric devices are accessible from the host system.

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24.   The host system as recited in claim 23, wherein the application is further configured to:

display the list to a user through a user interface; and

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provide through the user interface for the user to select devices from the list as the selected subset of the fabric device to be brought online.

25.   The host system as recited in claim 23, wherein, in response to the request

15   from the application, the fabric driver is further configured to:

query a fabric nameserver for information about the fabric devices to compile the list;

20   wherein the nameserver maintains information identifying devices accessible throughout the fabric.

26.   The host system as recited in claim 25, wherein the fabric driver is further configured to:

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receive the information about the fabric devices from the nameserver;

from the information about the fabric devices, select the fabric devices supporting one protocol out of a plurality of protocols supported on the fabric; and

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return the list of fabric devices to the application, wherein the list of fabric devices is a list of devices supporting said one protocol.

27.   The host system as recited in claim 26, wherein said one protocol is SCSI over Fibre Cannel.

28.   The host system as recited in claim 23, wherein the list comprises address information to address the fabric devices through the fabric.

29.   The host system as recited in claim 23, wherein the application is further configured to make said request to the fabric driver for a specified one of the one or more adapter ports.

30.   The host system as recited in claim 23, wherein the application is further configured to make said request to the fabric driver for a specified set of the one or more adapter ports.

31.   The host system as recited in claim 23, wherein said fabric driver is further configured to create device nodes within the host system for each device of the selected subset, wherein each device node provides a mechanism for accessing a corresponding one of the subset of fabric devices through an operating system executing on the host system.

32.   The host system as recited in claim 23, further comprising:

a plurality of I/O ports including the one or more adapter ports for connecting to a fabric; and

a device discovery mechanism configured to:

determine whether each of the I/O ports is connected to one or more direct attach devices or to the fabric;

for each of the I/O ports connected to one or more direct attach devices, discover the one or more direct attach devices and create an operating system node for accessing each direct attach device; and

for each of the I/O ports connected to the fabric, designate the I/O port as a fabric port without attempting to discover the fabric devices.

33.   The host system as recited in claim 32, wherein said discovery mechanism is configured to execute in response to a reboot of the host system, and wherein said application is configured to execute on the host system subsequent to said reboot and said discovery process.

34.   The host system as recited in claim 32, wherein each of the I/O ports connected to the fabric comprises a Fibre Channel host adapter port.

35.   The host system as recited in claim 32, wherein each of the I/O ports connected to one or more direct attach devices comprises a port to a Fibre Channel private loop or point-to-point link.

36.   The host system as recited in claim 32, wherein:

said discovery mechanism is configured to determine whether each of the I/O ports is connected to one or more direct attach devices or to the fabric by attempting to log-in to the fabric through each I/O port;

wherein if the log-in fails, said discovery mechanism is configured to designate the I/O port as a direct-attach port; and

if the log-in is successful, designate the I/O port as a fabric port.

37.   The host system as recited in claim 32, further comprising a library configured to provide an interface between said application and said fabric driver, wherein the library is configured to update a persistent repository for each fabric device successfully brought online for the host system to indicate which devices are currently online.

38.   The host system as recited in claim 37, wherein the library is further configured to:

receive from the fabric driver a notification that a fabric device is no longer available; and

update the persistent repository to reflect that the unavailable fabric device is offline.

39.   The host system as recited in claim 37, wherein the discovery mechanism is further configured to, in response to a reboot of the host system:

read the persistent repository; and

request the fabric driver to online the devices indicated by the persistent repository to have been onlined prior to the reboot.

40.   The host system as recited in claim 23, wherein the fabric comprises a Fibre Channel switched fabric comprising a plurality of Fibre Channel switches.

41.   The host system as recited in claim 23, wherein the fabric is part of a storage area network (SAN), and wherein the fabric devices comprise storage devices.

42.   The host system as recited in claim 23, wherein the fabric driver comprises:

a Fibre Channel protocol module configured to perform SCSI protocol operations between the host system and the fabric; and

one or more Fibre Channel port drivers configured to perform transport layer operations between the host system and the fabric;

wherein the Fibre Channel protocol module and the one or more Fibre Channel port drivers are part of an operating system kernel on the host system.

43.   A computer readable medium having stored thereon data representing sequences of instructions, wherein the sequence of instructions are executable by one or more processors to implement:

receiving a list from a fabric driver of fabric devices available to a host system;

receiving a request to select a subset of the fabric devices from the list; and

requesting the fabric driver to create a node in the host system for each of the fabric devices in the subset.

44.   The computer readable medium as recited in claim 43, wherein said receiving a list, said selecting a subset, and said requesting the fabric driver to online the selected subset, are performed through an application executing on the host system.

45. The computer readable medium as recited in claim 43, wherein the program instructions are further configured to implement, prior to said receiving a request to select a subset of the fabric devices from the list:

displaying the list of fabric devices available to the host system.

46. The computer readable medium as recited in claim 43, wherein the program instructions are further configured to implement, prior to said receiving a list:

requesting the fabric driver to provide the list of fabric devices available to the host system in response to user input.

47. A computer readable medium having stored thereon data representing sequences of instructions, wherein the sequence of instructions are executable by one or more processors to implement:

providing a list of fabric devices available to a host system;

receiving a request to create nodes in the host system for each fabric device in a selected subset of the fabric devices available to the host system; and

creating a node in the host system for each of the fabric devices in the selected subset.

48. The computer readable medium as recited in claim 47, wherein the program instructions are further configured to implement, prior to said providing a list of fabric devices:

querying a fabric nameserver for information about the fabric devices;

receiving the information about the fabric devices from the nameserver; and

compiling the list of fabric devices available to the host system.

49.   The computer readable medium as recited in claim 48, wherein said compiling the list comprises:

from the information about the fabric devices, selecting the fabric devices supporting one protocol out of a plurality of protocols supported on the fabric; and

compiling the list of fabric devices to list only those fabric devices supporting said one protocol.

50.   The computer readable medium as recited in claim 49, wherein said one protocol is SCSI over Fibre Channel.

51.   The computer readable medium as recited in claim 47, wherein the list comprises address information to address the fabric devices through the fabric.

52.   A computer readable medium having stored thereon data representing sequences of instructions, wherein the sequence of instructions are executable by one or more processors to implement:

receiving a request to identify devices attached to the storage network which are available to a host system;

requesting the storage network to identify devices attached to the storage network which are available to the host system;

receiving a list of the identified devices;

receiving a request to on-line a subset of the identified devices; and

5   creating a node within the host system for each of the identified devices in the subset that is not already online.

53.   The computer readable medium as recited in claim 52, wherein the storage network comprises a fabric, and wherein the host system comprises a plurality of ports to

10   the fabric, wherein said request to identify devices attached to the storage network which are available to a host system is for devices available to the host system through a specified one of the ports, and wherein said requesting the storage network to identify devices is made for the specified port.

54.   The computer readable medium as recited in claim 52, wherein the storage

15   network comprises a fabric, and wherein the host system comprises a plurality of ports to the fabric, wherein said request to identify devices attached to the storage network which are available to a host system is for devices available to the host system through a specified set of the ports, and wherein said requesting the storage network to identify

20   devices is made for the specified set of the ports.

55.   The computer readable medium as recited in claim 52, wherein the program instructions are further configured to implement, for each device successfully brought online for the host system by said creating a node, updating a persistent

25   repository to indicate which devices are currently online.

56.   The computer readable medium as recited in claim 55, wherein the program instructions are further configured to implement:

receiving from the storage network a notification that a device is no longer available; and

updating the persistent repository to reflect that the unavailable device is offline.

57. The computer readable medium as recited in claim 55, wherein the program instructions are further configured to implement:

in response to a reboot of the host system:

reading the persistent repository; and

onlining the devices indicated by the persistent repository to have been onlined prior to the reboot.

58. The computer readable medium as recited in claim 52, wherein the storage network comprises a Fibre Channel switched fabric comprising a plurality of Fibre Channel switches.

59. The computer readable medium as recited in claim 52, wherein the storage network is part of a storage area network (SAN), and wherein the devices comprise storage devices.

60. A computer readable medium having stored thereon data representing sequences of instructions, wherein the sequence of instructions are executable by one or more processors to implement a device discovery process for a host system, wherein the host system comprises a plurality of I/O ports, and wherein the device discovery process comprises:

determining whether each of the I/O ports is connected to one or more direct attach devices or to a fabric;

for each of the I/O ports connected to one or more direct attach devices, discovering the one or more direct attach devices and creating an operating system node for accessing each direct attach device; and

for each of the I/O ports connected to the fabric, designating the I/O port as a fabric port without attempting to discover devices attached to the fabric.

61.   The computer readable medium as recited in claim 60, wherein said determining, said discovering the one or more direct attach devices and creating an operating system node, and said designating are performed in response to a reboot of the host system.

62.   The computer readable medium as recited in claim 61, wherein said program instructions are further configured to implement, subsequent to said device discovery process:

receiving a request to discover devices available to the host system through one of said I/O ports designated as a fabric port; and

in response to said request, obtaining a list of fabric devices available through said one of said I/O ports designated as a fabric port and onlining a selected subset of the fabric devices.

63.   The computer readable medium as recited in claim 64, wherein said request is made by a system administrator through an application executing on the host system.

64.   The computer readable medium as recited in claim 60, wherein the I/O ports comprise Fibre Channel host adapter ports.

65.   The computer readable medium as recited in claim 60, wherein each of the I/O ports connected to one or more direct attach devices comprises a port to a Fibre Channel private loop or point-to-point link.

66.   The computer readable medium as recited in claim 60, wherein said determining whether each of the I/O ports is connected to one or more direct attach devices or to the fabric comprises:

attempting to log-in to the fabric through each I/O port;

if the log-in fails, designating the I/O port as a direct-attach port; and

if the log-in is successful, designating the I/O port as a fabric port.

67.   A method for discovering fabric devices, comprising:

viewing a list of fabric devices available to a host system;

selecting a subset of the fabric devices from the list; and

requesting that each of the fabric devices in the subset be brought online if not already online for use from the host system.

68.   The method as recited in claim 67, further comprising, prior to said viewing a list:

requesting the list of fabric devices available to the host system.